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09/518,287	03/03/2000	David A. Foti	04899-034001	6548

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EXAMINER
TRUONG, LECHI

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/518,287	FOTI ET AL.
	Examiner	Art Unit	
	LeChi Truong	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,7,9,10,12,13,16-19,23,24 and 27-37* is/are rejected.

7)☒ Claim(s) *3,4,6,8,11,14,15,20-22,25 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-37 are presented for the examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims **1, 7, 12, 18, 35-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Travis, Jr. et al (US. Patent 5,341,478) in view of Nec (Index implementation method for object

oriented database – involves comparing value for structure type member variable to obtain size

related rank for variables).

3.   **As to claim 1,** Travis teaches the invention substantially as claimed including: a set of

method signatures (the class name, col 26, ln 25-27/ the name of other class, col 11, ln 39-43/ col

14, ln 67-68), a requested method invocation (the message entries ... which can be performed on

instance in the corresponding class, col 3, ln 44-47/ the method of invocation request, col 22, ln

55-60/ col 24, ln 23-25), retrieve a set of method signatures for a method referenced in a

requested method invocation (col 8, ln 11-16), each method signature corresponds to a method

provided by object within object-oriented environment(col 6, ln 58-62/ col 8, ln 30-35), each

signature includes a method name (col 8, ln 60-67), list any data type of input parameters to be

received by the corresponding method(col 11, ln 15-21), the data types of input parameters of

each method(types of instance, col 3, ln 39-41/ their types, col 18, ln 39-41), data types of input

parameter passed by the requested method invocation(parameter of message request consists a

name and a type, col 11, ln 14-17/ parameters, col 18, ln 39-42/ to find the particular operation

that is called for by a particular message 360, col 8, ln 14-19), comparing the data types of input

parameters of each method represented by the signatures to data types of input parameters

passed by the requested method invocation to determine suitability of each method to receive

input parameters(to cause a specific action to occur…this mapping occurs by finding the

particular message 360 which corresponding to the particular class 380 of the particular instance

370 and then find particular method 390 with corresponding to the message 360 supported by the

class 380… to implement the desired operation of the message 360 on the instance370, col 8, ln

17-23/ col 3, ln 39-46/ col 18, ln 3-45/ the method definition also specifies the arguments and

their types corresponding to the parameters in the message, and whether the method involves a

parameter list. This parameter list represents the input required by the executable code capable of

being invoked by the method, col 18, ln 38-45), invoking in response to the requested method

invocation, the method of object oriented computing environment corresponding to the selected

method signature (col 3, ln 1-7/ col 8, ln 20-25/ col 18, ln 40-45).

4.   Travis does not teach ranking the method signature as a function comparison, selecting

… the rank. However, Nec teaches ranking the method signature as a function comparison,

selecting … the rank (value is compared for every member variable defined as this structure

type, and size-related rank is performed (page 4/27, right col/ page 9/27, right col), perform

search processing of index component (page 12/27, right col/ page 14/ 27, right col), returns

retrieval result (page 17/ 27, right col).

5.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Travis and Nec because Nec's value is compared for every

member variable defined as this structure type, and size-related rank is performed apply, perform

search processing of index component would improve the efficiency of Travis and Nec's systems

by reducing the search cost about a structure type member variable.

6.   **As to claim 7,** Travis teaches accessing a data type of the signature to the data type of the

object oriented environment ordered by preference (col 26, ln 16-20 and ln 21-27).

7.   **As to claims 12, 18,** they are apparatus claims of claims 1, 7; therefore, they are rejected

for the same reasons as claims 1, 7 above.

8.   **As to claim 35,** Travis teaches each signature includes a method name (col 18, ln 34-38),

the name of method in requested method invocation (col 11, ln 13-18/ col 13, ln 18, ln 39-45),

each method represented by the signature corresponds to a method provided by the same object

(col 3, ln 43-48/col 8, ln 19-25).

9.   **As to claim 36,** it is apparatus claim of claim 35; therefore, it is rejected for the same

reason as claim 35 above.

10.   Claims **2, 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Travis, Jr. et

al (US. Patent 5,341,478) in view of Nec (Index implementation method for object oriented

database – involves comparing value for structure type member variable to obtain size related

rank for variables), as applied to claim 1 above, and further in view of Admitted Prior Art

(APA).

11.   **As to claim 2,** Travis and Nec do not teach a mathematical tool. However, APA teaches a

mathematical tool (conventional mathematical tools, page 1, ln 5-28).

12.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Travis, Nec and APA because APA's conventional

mathematical tools would improve the use of Travis, Nec's systems providing a comprehensive

technical computing environment for performing numerical linear algebraic calculations.

13.   **As to claim 13,** it is apparatus claim of claim 2; therefore, it is rejected for the same

reason as claim 2 above.

14.   Claim **5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Travis et al (US.

Patent 5,341,478) in view of Nec (Index implementation method for object oriented database –

involves comparing value for structure type member variable to obtain size related rank for

variables), as applied to claim 1 above, and further in view of Hartmut Poglheim (Genetic and

Evolutionary Algorithm Toolbox for use with Matlab).

15.   **As to claim 5**, Travis and Nec do not teach supper classes, calculation the fitness ranking,

calculating difference in level within class. However, Poglheim teaches supper classes,

calculation the fitness ranking, calculating difference in level within class (derived from the

objective function , Fitness values, section 6.3, the fitness assigned to each individual depends

only on its position /Rank-based fitness assignments, section 3.1).

16.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Travis, Nec and Poglheim because Poglheim's supper

classes, calculation the fitness ranking, calculating difference in level within class would

improve the efficiency of Travis, Nec's systems by sorting and selecting the method signatures

that are based on the selection probability.

17.   Claims **9, 16-17, 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Travis, Jr. et al (US. Patent 5,341,478) in view of Nec (Index implementation method for object

oriented database – involves comparing value for structure type member variable to obtain size

related rank for variables), as applied to claim 1 above, and further in view of Cantin et al

(Persistent object-mapping in an object-oriented environment).

18.   **As to claim 9**, Travis and Nec do not teach converting the input data types, converting

return values from the method to data types supported by the computing environment. However,

Cantin teaches converting the input data types, converting return values from the method to data

types supported by the computing environment (page 9, ln 5-15 / page 6, ln 5-15).

19.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Travis, Nec and Cantin because Cantin's converting the

input data types, converting return values from the method to data types supported by the

computing environment would improve the efficiency of Travis and Nec' systems by mapping

data between an active file and permanent storage in an object oriented environment.

20.   **As to claims 16-17, 19,** they are apparatus claims of claims 4-8; therefore, they are

rejected for the same reasons as claims 4-8 above.

21.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Travis, Jr. et al

(US. Patent 5,341,478) in view of Nec (Index implementation method for object oriented

database – involves comparing value for structure type member variable to obtain size related

rank for variables), as applied to claim 1 above, and further in view of Bill Venners (Eternal

Math).

22.   **As to claim 10,** Travis, Nec do not teach the object-oriented environment include java

virtual machine. However, Venners teaches teach the object-oriented environment include java

virtual machine (java virtual machine, page 1-2).

23.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Travis, Nec and Venners because Venners's the object-

oriented environment include java virtual machine would improve the efficiency of Travis and

Nec's systems by making system for accessing externally defined objects from an array based

mathematical computing environment more consistent.

24.   Claims **23, 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al

(Persistent object-mapping in an object-oriented environment) in view of Nec (Index

implementation method for object oriented database – involves comparing value for structure

type member variable to obtain size related rank for variables), as applied to claim 1 above, and

further in view of Travis, Jr. et al (US. Patent 5,341,478).

25.   As to claim 23, Cantin teaches an interface (OPSS, page 2, ln 5-30), identifying

(Persistent Id, page 2, ln 5-30), the object-oriented environment (object-oriented programming,

page 2, ln 5-30), a technical computing environment method (PDS, page 2, ln 15-50/ page 15-

25), a calculation workspace (the schemamapper, page 2, ln 37-54/ page 8, line 5-25), a

command interpreter (an interpreter, page 2, ln 36-58), a signature selector (target selection, page

2, ln 36-58) an object (object, page 5, ln 1-10), an object-oriented environment (Object-oriented

programming, page 2, ln 1-11),   reference to a method(data, a target, page 2, ln 36-58, the

instance variables " dog_type/ type of persistent object, page 5, ln 1-25/ a persistent identifier(

PID), page 8, ln 5-25), an object(a selected object, page 2, ln 37-57), invoking the method

corresponding(invoking/ invoked an environment type in which said data is to be mapped, page

8, ln 30-55) and Nec teaches rank a list of signature/ the ranking determining suitability (value is

compared for every member variable defined as this structure type, and size-related rank is

performed (page 4/27, right col/ page 9/27, right col), perform search processing of index

component (page 12/27, right col/ page 14/ 27, right col), selecting ... the rank value is

compared for every member variable defined as this structure type, and size related rank is

performed, page 4/27, right col/ page 9/27, right col), perform search processing of index

component (page 12/27, right col/ page 14/ 27, right col), returns retrieval result (page 17/ 27,

right col).

28.   Cantin and Nec do not teach the requested method invocation, data input parameters

passed by the requested method invocation. However, Travis teaches a requested method

invocation (the message entries ... which can be performed on instance in the corresponding

class, col 3, ln 44-47/ the method of invocation request, col 24, ln 23-25), data input parameters

passed by the requested method invocation (parameter of message request consists a name and a

type, col 11, ln 14-17/ parameters, col 18, ln 39-42).

29.   It woud have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Cantin, Nec and Travis because Travis's a requested

method invocation, data input parameters passed by the requested method invocation would

provide ability to invoke a server application by a client application.

30.   **As to claim 37,** Travis teaches each signature includes a method name (col 18, ln 34-38),

the name of method in requested method invocation (col 11, ln 13-18/ col 13, ln 18, ln 39-45),

each method represented by the signature corresponds to a method provided by the same object

(col 3, ln 43-48/col 8, ln 19-25).

31.   Claim **24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al

(Persistent object-mapping in an object-oriented environment), Nec (Index implementation

method for object oriented database – involves comparing value for structure type member

variable to obtain size related rank for variables), Travis (US. Patent 5,341,478), as applied to

claim 23 above, and further in view of Admitted Prior Art (APA).

32.   **As to claim 24,** Cantin, Nec, Travis do not teach a mathematical tool. However, APA

teaches a mathematical tool (conventional mathematical tools, page 1, ln 5-28).

33.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Cantin, Nec, Travis and APA because APA's conventional

mathematical tools would improve the flexibility of Cantin, Nec, Travis's systems by providing a

comprehensive technical computing environment for performing numerical linear algebraic

calculations.

34.   Claims **27-29, 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin

et al (Persistent object-mapping in an object-oriented environment), Nec (Index implementation

method for object oriented database – involves comparing value for structure type member

variable to obtain size related rank for variables), Travis et al (US. Patent 5,341,478), as applied

to claim 23 above, and further in view of Hartmut Poglheim (Genetic and Evolutionary

Algorithm Toolbox for use with Matlab).

35.   **As to claim 27,** Cantin, Nec, Travis do not teach supper classes, calculation the fitness

ranking, calculating difference in level within class. However, Poglheim teaches supper classes,

calculation the fitness ranking, calculating difference in level within class (derived from the

objective function (Fitness values, section 6.3), the fitness assigned to each individual depends

only on its position /Rank-based fitness assignments, section 3.1).

36.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Cantin, Nec, Travis and Poglheim because Poglheim's

supper classes, calculation the fitness ranking, calculating difference in level within class would

improve the efficiency of Cantin and Nec's systems by sorting and selecting the method

signatures that are based on the selection probability.

37.   **As to claim 28,** Poglheim teaches calculating a difference in a number of dimensions (the

number of individual in the population is used for calculation, section 3.1).

38.   **As to claim 29,** Poglhemic teaches a two-dimensional array storing (table 1: Dependency

of fitness value from selective pressure (section 3,1).

39.   **As to claim 34,** it is an apparatus claim of claim 28; therefore, it is rejected for the same

reason as claim 28 above.

40.   Claims **31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al

(Persistent object-mapping in an object-oriented environment), Nec (Index implementation

method for object oriented database – involves comparing value for structure type member

variable to obtain size related rank for variables), Travis (US. Patent 5,341,478), as applied to

claim 23 above, and further in view of Bill Venners (Eternal Math).

41.   **As to claim 31,** Cantin, Nec, Travis do not teach the object-oriented environment include

java virtual machine. However, Venners teaches teach the object-oriented environment include

java virtual machine (java virtual machine, page 1-2).

42.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Cantin, Nec, Travis, Venners because Venners's the

object-oriented environment include java virtual machine would improve the flexibility of

Cantin, Nec, Travis's systems by makimg the system for accessing externally defined objects

from an array based mathematical computing environment more consistent.

43.   **As to claims 32, 33,** Venners teaches a java virtual machine / a java native interface

(page 1-2).

44.   Claim **30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al

(Persistent object-mapping in an object-oriented environment) in view Nec (Index

implementation method for object oriented database – involves comparing value for structure

type member variable to obtain size related rank for variables), Travis (US. Patent 5,341,478), as

applied to claim 23 above, and further in John W. Eaton (A High-level Interactive Language for

Numerical Computations Edition 3 for Octave Version 2.1.x)

45.   **As to claim 30,** Cantin, Nec, Travis do not teach conventional table for convert.

However, Eaton teaches conventional table for convert (table of input conversions, page 18 of

23).

46.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Cantin, Nec, Travis and Eaton because Eaton's table of

input conversions would improve the use of Cantin, Nec, Travis's systems by providing

summarize what the different conversion do.

Allowable Subject Matter

47.   Claims 3-4, 6, 8, 11, 20-22, 14-15 and 25-26 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Response to the argument:

29.   Applicant amendment filed on 04/25/2005 has been considered but they are not
persuasive:

        Applicant argued in substance that :

(1) " Travis does not teach comparing the data types of input parameters of each method represented by signatures to data types of input paramethes passed by the requested method to determine suitablility of each method to receive input paramter passed by the requested method invocation".

(2) " Travis does not discus comparing data type of input parameters received by the requested method invocation to the data types to be passed into the invoked method".

(3) " Catin does not discuss ranking signatures to determine suitable of data types of input parameters of each method representd by the signatures to receive data types of input parameter passed by the request method invocation.

30.   Examiner respectfully disagreed with Applicant's remarks:

As to the point (1), Travis teaches to cause a specific action to occur...this mapping occurs by finding the particular message 360 which corresponding to the particular class 380 of the particular instance 370 and then find particular method 390 with corresponding to the message 360 supported by the class 380... to implement the desired operation of the message 360 on the instance370, col 8, ln 17-23/ col 3, ln 39-46/ col 18, ln 3-45/ the method definition also specifies the arguments and their types corresponding to the parameters in the message, and whether the method involves a parameter list. This parameter list represents the input required by the executable code capable of being invoked by the method, col 18, and ln 38-45). Since the parameters of message invocation request are mapped to the arguments of method object, the parameters of message request must be compared to the parameter of method object in order to find the corresponding between the parameter of message and argument of method

object. Suitablility of each method to receive input paramter passed by the requested method invocation(one set of values includes the message name and the list of parameters supported by the message. The orther set of values identifer a set of method object that represent implementations of the message, col 18, ln 25-29).

As to the point(3), "comparing data type of input parameters received by the requested method invocation to the data types to be passed into the invoked method" was not clearly described in the claims.

As to the point(4), Nec teaches rank a list of signature/ the ranking determining suitability (value is compared for every member variable defined as this structure type, and size-related rank is performed (page 4/27, right col/ page 9/27, right col), perform search processing of index component (page 12/27, right col/ page 14/ 27, right col), selecting ... the rank value is compared for every member variable defined as this structure type, and size related rank is performed, page 4/27, right col/ page 9/27, right col), perform search processing of index component (page 12/27, right col/ page 14/ 27, right col), and Travis teaches / the method definition also specifies the arguments and their types corresponding to the parameters in the message, and whether the method involves a parameter list. This parameter list represents the input required by the executable code capable of being invoked by the method (col 18, ln 38-45).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LeChi Truong whose telephone number is (571) 272 3767. The

examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR of Public PAIP. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIP

system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

July 5, 2005

MENG-AI T. AN
SUPERVISORY PATENT EXAMINER
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